1. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-6 + 10i)(5 + 8i)$$

A. $a \in [-31, -24]$ and $b \in [77, 82]$

B. $a \in [-113, -107]$ and $b \in [1, 8]$

C. $a \in [45, 54]$ and $b \in [93, 99]$

D. $a \in [-113, -107]$ and $b \in [-6, 1]$

E. $a \in [45, 54]$ and $b \in [-98, -93]$

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2. Simplify the expression below and choose the interval the simplification is contained within.

$$20 - 3^2 + 14 \div 9 * 10 \div 17$$

A. $[29.61, 30.26]$

B. $[28.47, 29.04]$

C. $[11.8, 12.05]$

D. $[10.14, 11.46]$

E. None of the above

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3. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\frac{-11}{0} + \sqrt{221}i$$

A. Rational

B. Nonreal Complex

C. Pure Imaginary

D. Not a Complex Number

E. Irrational

4. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{33856}{529}}$$

A. Whole

B. Not a Real number

C. Integer

D. Irrational

E. Rational

5. Simplify the expression below and choose the interval the simplification is contained within.

$$16 - 6 \div 3 * 10 - (5 * 14)$$

A. $[-55.2, -51.2]$

B. $[-79, -73]$

C. $[83.8, 88.8]$

D. $[-135, -117]$

E. None of the above

6. Choose the **smallest** set of Real numbers that the number below belongs to.

$$\sqrt{\frac{-1950}{15}}$$

A. Whole

B. Irrational

C. Rational

D. Integer

E. Not a Real number

---

7. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{72 + 33i}{-2 - 4i}$$

A. $a \in [-1.5, 1]$ and $b \in [-19, -16.5]$

B. $a \in [-14.5, -13]$ and $b \in [10, 12]$

C. $a \in [-14.5, -13]$ and $b \in [221.5, 223]$

D. $a \in [-277.5, -275.5]$ and $b \in [10, 12]$

E. $a \in [-37, -35]$ and $b \in [-9, -7.5]$

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8. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$\frac{-45 - 66i}{3 - i}$$

A. $a \in [-17, -14.5]$ and $b \in [64.5, 66.5]$

B. $a \in [-20.5, -19]$ and $b \in [-17, -14]$

C. $a \in [-69.5, -68.5]$ and $b \in [-24.5, -23]$

D. $a \in [-8.5, -5.5]$ and $b \in [-24.5, -23]$

E. $a \in [-8.5, -5.5]$ and $b \in [-244, -242.5]$

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9. Simplify the expression below into the form $a + bi$. Then, choose the intervals that a and b belong to.

$$(-5 - 9i)(-7 - 10i)$$

A. $a \in [117, 133]$ and $b \in [-18, -10]$

B. $a \in [-55, -54]$ and $b \in [107, 117]$

C. $a \in [-55, -54]$ and $b \in [-115, -107]$

D. $a \in [33, 41]$ and $b \in [84, 91]$

E. $a \in [117, 133]$ and $b \in [12, 16]$

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10. Choose the **smallest** set of Complex numbers that the number below belongs to.

$$\sqrt{\frac{-1664}{8}} + \sqrt{0}i$$

A. Rational

B. Nonreal Complex

C. Not a Complex Number

D. Pure Imaginary

E. Irrational
